



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2021-0660; Project Identifier AD-2021-00398-T]**

**RIN 2120-AA64**

**Airworthiness Directives; Learjet Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain Learjet Inc. Model 45 airplanes. This proposed AD was prompted by a report of a fuel leak due to a cracked fuel line between the engine fuel control and the engine fuel flow meter. This proposed AD would require replacing the existing fuel flow meter bracket assembly with a redesigned bracket assembly and reporting information to the FAA. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Learjet Inc., One Learjet Way, Wichita, KS 67209; phone: (316) 946-2000; email: [ac.ict@aero.bombardier.com](mailto:ac.ict@aero.bombardier.com); website: <https://businessaircraft.bombardier.com/en/aircraft/Learjet.html>. You may view

this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

### **Examining the AD Docket**

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0660; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

**FOR FURTHER INFORMATION CONTACT:** James Galstad, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 S. Airport Road, Wichita, KS 67209; phone: (316) 946-4135; email: [james.galstad@faa.gov](mailto:james.galstad@faa.gov) or [Wichita-COS@faa.gov](mailto:Wichita-COS@faa.gov); or Thomas Teplik, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 S. Airport Road, Wichita, KS 67209; phone: (316) 946-4196; email: [thomas.teplik@faa.gov](mailto:thomas.teplik@faa.gov) or [Wichita-COS@faa.gov](mailto:Wichita-COS@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0660; Project Identifier AD-2021-00398-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

## **Confidential Business Information**

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to James Galstad, Aviation Safety Engineer, or Thomas Teplik, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 S. Airport Road, Wichita, KS 67209. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

## **Background**

The FAA received a report of a fuel leak due to a cracked fuel line between the engine fuel control and the engine fuel flow meter on a Learjet Model 45 (Learjet 45) airplane. There are four different Model 45 configurations: Model 45 (Learjet 40), Model 45 (Learjet 45), Model 45 (Learjet 70), and Model 45 (Learjet 75). They all are susceptible to cracked fuel lines with possible fuel leakage because the fuel flow meter bracket and fuel line is common to each model. Further analysis of the fleet of all the 45 models revealed similar failures in this area including the following: 16 fuel line failures, 2 instances of multiple inlet attaching bolts breaking, 9 leaking fuel controls, a broken gearbox strut, 4 cracked No. 6 bearing oil supply lines, and 7 cracked engine oil tanks. The FAA evaluated the flammable fluid leaks and broken parts and determined that they may have resulted from vibration.

Following the above report and analysis, Learjet designed a new engine fuel flow meter bracket and incorporated it during production. The unsafe condition, if not addressed, could result in an engine installation fire, which could progress to an uncontrolled fire and consequent loss of control of the airplane.

## **FAA's Determination**

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

## **Related Service Information under 1 CFR Part 51**

The FAA reviewed Bombardier Learjet 40 Service Bulletin (SB) SB 40-73-01, Revision 1, Bombardier Learjet 45 SB 45-73-2, Revision 1, Bombardier Learjet 70 SB 70-73-01, Revision 1, and Bombardier Learjet 75 SB 75-73-01, Revision 2, all dated January 9, 2017. This service information specifies procedures for replacing the existing fuel flow meter bracket assembly with a redesigned bracket assembly with pad fuel flow meter that has an increased material thickness. These documents are distinct since they apply to different airplane models. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Proposed AD Requirements in this NPRM**

This proposed AD would require accomplishing the actions specified in the service information already described, except as discussed under "Differences Between this Proposed AD and the Service Information."

## **Differences Between this Proposed AD and the Service Information**

This proposed AD would require reporting certain maintenance information to the FAA, where the service information does not. The information provided in the reports would be related to contributing factors that the FAA found showed a correlation between the reported engine fan vibration levels and the cracking fuel line between engine fuel control and the engine fuel flow meter and a correlation between the cracking fuel line and a certain batch of fan disks. In addition, the FAA found that a contributing factor could be the susceptibility of the fuel flow meter bracket assembly and the susceptibility of the bracket assembly with pad fuel flow meter to the vibration induced. The requested reporting information would allow the FAA to determine whether further rulemaking action would be necessary to mitigate the unsafe condition.

Also, the effectivity of Bombardier Learjet 45 SB 45-73-2, Revision 1, dated January 9, 2017, begins with serial number 45-005. This proposed AD would also apply to airplane serial numbers 45-002 through 45-004 because, although these three airplanes are not currently in service, they are subject to the unsafe condition. Thus, it is necessary to include them in the event they are returned to service.

#### **Costs of Compliance**

The FAA estimates that this AD, if adopted as proposed, would affect 443 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this proposed AD:

**Estimated costs**

Action	Labor Cost	Parts Cost	Cost per product	Cost on U.S. operators
Replacing the bracket assembly	4.5 work-hours x \$85 per hour = \$382.50	\$3,895	\$4,277.50	\$1,894,932.50
Reporting and reviewing logbooks	9 work-hours x \$85 per hour = \$765	Not Applicable	\$765	\$338,895

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to take approximately 9 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to: Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

**Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**Learjet Inc.:** Docket No. FAA-2021-0660; Project Identifier AD-2021-00398-T.

#### **(a) Comments Due Date**

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Learjet Inc. Model 45 (Learjet 40), Model 45 (Learjet 45), Model 45 (Learjet 70), and Model 45 (Learjet 75) airplanes, serial numbers 45-002 through 45-556 and 45-2001 through 45-2146, certificated in any category.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7100, Powerplant System.

**(e) Unsafe Condition**

This AD was prompted by a report of a fuel leak due to a cracked fuel line between the engine fuel control and the engine fuel flow meter. The FAA is issuing this AD to prevent cracking and failures. The unsafe condition, if not addressed, could result in an engine installation fire, which could progress to an uncontrolled fire and consequent loss of control of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.



### **(g) Reporting Requirement**

Within 60 days after the effective date of this AD, report the following information, where available, to the Wichita ACO Branch via email at james.galstad@faa.gov, thomas.teplik@faa.gov, and Wichita-COS@faa.gov; or by mail to Wichita ACO Branch, Attn: James Galstad/Thomas Teplik, 1801 S. Airport Road, Room 100, Wichita, KS 67209.

(1) Name of the owner; the address of the owner; name of the organization doing the actions required by this AD; the date the actions were completed; the name of the person submitting the report; the address, telephone number, and email of the person submitting the report.

(2) The fan vibration levels that have been recorded in the airplane and engine maintenance records since November 1, 2019. Include the airplane and engine serial numbers.

(3) The date of each vibration level recorded and the associated hours time-in-service for the airplane and each engine.

(4) For each fan vibration level reported, include:

(i) Whether molybdenum coating for the fan was applied per Temporary Revision 72-494, dated August 15, 2017 (or as subsequently incorporated into the engine's Inspection/Repair Manual TFE731 (ATA Number 72-IR-02)).

(ii) If molybdenum coating was applied using a different process than Temporary Revision 72-494, dated August 15, 2017 (or as subsequently incorporated into the engine's Inspection/Repair Manual TFE731 (ATA Number 72-IR-02)), report the process by which the molybdenum coating was applied and the revision level of the document defining the application process for the molybdenum coating.

Note 1 to paragraph (g)(4): Temporary Revision 72-494, dated August 15, 2017, specifies applying a dry film lubricant on the mating surfaces of the fan hub and the fan blades. The lubricating solid for this dry film lubricant is molybdenum disulfide, which is referred to in this AD as molybdenum coating.

(5) For each fan vibration level reported, the fan hub serial number and hours time-in-service for this fan hub.

(6) Installation date and service bulletin (SB) revision level for the installation of the bracket assembly with pad fuel flow meter and hose if installed before the effective date of this AD.

(7) Any failures of the bracket assembly with pad fuel flow meter and hose installed in accordance with any SB listed in paragraph (h) or any prior revision of these SBs.

(8) Installation date and SB revision level used for installation of the fuel control screws within the engine fuel control in accordance with Honeywell SB TFE731-73-5146

(9) Any failures of fuel control screws after compliance with Honeywell SB TFE731-73-5146.

**(h) Replacement**

Within 12 months after the effective date of this AD or 750 hours time-in-service after the effective date of this AD, whichever occurs first, replace the engine fuel flow meter bracket in accordance with the Accomplishment Instructions, paragraphs 3.A through 3.C, of the following Bombardier SB applicable to your airplane model.

(1) Bombardier Learjet 40 SB 40-73-01, Revision 1, dated January 9, 2017.

(2) Bombardier Learjet 45 SB 45-73-2 Revision 1, dated January 9, 2017.

(3) Bombardier Learjet 70 SB 70-73-01 Revision 1, dated January 9, 2017.

(4) Bombardier Learjet 75 SB 75-73-01, Revision 2, dated January 9, 2017.

**(i) Credit for Previous Actions**

(1) This paragraph provides credit for the actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Bombardier Learjet 40 SB 40-73-01, Basic Issue, Bombardier Learjet 45 Service Bulletin SB 45-73-2, Basic Issue, Bombardier Learjet 70 SB 70-73-01, Basic Issue, or

Bombardier Learjet 75 SB 75-73-01, Basic Issue, all dated October 3, 2016, or  
Bombardier Learjet 75 SB 75-73-01, Revision 1, dated October 10, 2016.

(2) To take credit for any previous action, you must comply with paragraph (g) of this AD within 60 days after the effective date of this AD.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Wichita ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in Related Information.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

(1) For more information about this AD, contact James Galstad, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 S. Airport Road, Wichita, KS 67209; phone: (316) 946-4135; email: james.galstad@faa.gov or Wichita-COS@faa.gov; or Thomas Teplik, Aviation Safety Engineer, Wichita ACO Branch, FAA, 1801 S. Airport Road, Wichita, KS 67209; phone: (316) 946-4196; email: thomas.teplik@faa.gov.

(2) For service information identified in this AD, contact Learjet Inc., One Learjet Way, Wichita, KS, 67209; phone: (316) 946-2000; email: ac.ict@aero.bombardier.com; website: <https://businessaircraft.bombardier.com/en/aircraft/Learjet.html>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued on August 5, 2021.

Lance T. Gant, Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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